GEOGRAPHICAL PUBLICATIONS

(Reviews and Titles of Books, Papers, and Maps)

For key to classification see "Explanatory Note" in Vol. II, pp. 77-81

NORTH AMERICA

UNITED STATES

North-Central States

WELD, L. D. H., AND OTHERS. **Studies in the marketing of farm products.** 113 pp.; ills. *Univ. of Minnesota Studies in Social Sci. No. 4.* Minneapolis, 1915. 10 x 7.

Beginning with a general discussion of "Market Distribution," this instructive publication treats in detail the marketing of live-stock products, potatoes, and poultry, with special reference to Minnesota; the distribution of milk in Minneapolis and St. Paul; the city market of Minneapolis; co-operative marketing of grain in western Canada; and the food supply of the Iron Range. The basis for the discussion throughout the volume lies in the declaration that "marketing is a part of production," an assumption which the senior author says has not received sufficient recognition by economists.

In the marketing of many foodstuffs, "the part played by transportation costs is almost insignificant when considered as a proportion of final retail prices." Statistics are presented to demonstrate that, in general, the farmer receives 60 per cent of the price for which his product retails. The advantages to be derived from co-operative farming are strongly emphasized and well supported by data.

In many respects the chapter that analyzes "The Food Supply of the Iron Range" is most interesting. The towns are more numerous and are closer together than any other group in the state. On the other hand they are farther from the food-producing area than any other towns. Their presence is due wholly to the iron mines. Since agriculture as yet is a negligible factor, all food supplies must be shipped in. The cost of living on the Range is about 10 per cent higher than in Minneapolis and St. Paul. E. VAN CLEEF.

ALEXANDER, W. H. **Climatological data: Ohio section.** Maps. *Climatological Data,* Vol. 21, 1916, No. 4 (April), pp. 27-30; No. 6 (June), pp. 43-48; No. 7 (July), pp. 51-56; No. 8 (August), pp. 59-64; No. 9 (Sept.), pp. 67-72; No. 10 (Oct.), pp. 75-80. Weather Bureau, Washington, D. C.

ALVORD, J. W., AND C. B. BURDICK. **Report of the Rivers and Lakes Commission on the Illinois River and its bottom lands, with reference to the conservation of agriculture and fisheries and the control of floods.** 141 pp.; maps, diagrs., ills. Springfield, 1915.

BOYLE, J. E. **Notes from an agricultural field trip across North Dakota.** *Quart. Journ. of the Univ. of North Dakota,* Vol. 7, 1917, No. 2, pp. 177-183.

CADY, G. H. **Coal resources of District VI.** 94 pp.; maps, diagrs., ills., index, bibliogr. *Illinois Geol. Survey Bull. No. 15.* Urbana, 1916. [District VI embraces Jefferson and Franklin Counties and the northern tier of townships in Williamson.]

CADY, G. H. **Mineral production of Illinois in 1909 and 1910.** *Illinois Geol. Survey Bull. No. 20,* pp. 19-42. Urbana, 1915.

CASE, E. C., AND W. I. ROBINSON. **The geology of Limestone Mountain and Sherman Hill in Houghton County, Michigan.** Map, diagrs. *Michigan Geol. and Biol. Survey Publ. 18: Geol. Ser. 15,* pp. 167-181. Lansing, 1915.

COOPER, T. P., F. W. PECK, AND ANDREW BOSS. **Labor requirements of crop production.** 55 pp.; diagrs. *Univ. of Minnesota Agric. Exper. Station Bull. 157.* St. Paul, 1916. ["The data herein presented show the actual labor requirements of farm crops in terms of man- and horse-hours per acre and define some of the principles underlying the use of man labor on the farm."]

FRITSCH, W. A. **German settlers and German settlements in Indiana.** 62 pp. [The Speed Press], Evansville, Ind., 1915. 50 cents. 7 x 5.

HERSEY, H. B. **Climatological data: Wisconsin section.** Maps. *Climatological Data,* Vol. 21, 1916, No. 2 (February), pp. 11-14; No. 3 (March), pp. 19-22. Weather Bureau, Washington, D. C.

HOLAND, H. R. **A forgotten community: A record of Rock Island, the threshold of Wisconsin.** *Proc. State Hist. Soc. of Wisconsin at its Sixty-Third Annual Meeting held October 21, 1915,* pp. 140-150. Madison, 1916. [Island about a mile square in Green Bay, now abandoned, but 70 years ago the home of a vigorous fishing community.]

KAY, F. H., AND K. D. WHITE. **Coal resources of District VIII (Danville).** 68 pp.; maps, diagrs., ills. *Illinois Geol. Survey Bull. No. 14.* Urbana, 1915.

LEE, WALLACE. **The geology of the Rolla Quadrangle.** xii and 111 pp.; maps, diagrs., ills., index. *Missouri Bur. of Geol. and Mines,* Vol. 12, Second Series. Jefferson City, Mo., 1913. [Accompanied by original geological map, 1:62,500.]

MERANDO, SALVATORE. **Gl' Italiani a Chicago.** *Riv. Coloniale,* Vol. 11, 1916, No. 9, pp. 472-478.

MILLER, M. F. **The control of soil washing.** 12 pp.; ills. *Univ. of Missouri Agric. Exper. Station Circular No. 78.* Columbia, 1915.

MILLS, W. C. **Exploration of the Tremper mound (Portsmouth, Ohio).** Maps, diagrs., ills. *Ohio Archæological and Historical Quart.,* Vol. 25, 1916, No. 3, pp. 263-398.

MURPHY, MAURICE. **Some features of the history of Parke County [Indiana].** *Indiana Mag. of Hist.,* Vol. 12, 1916, No. 2, pp. 144-157.

O'BRIEN, F. A. **Names of places of interest on Mackinac Island, Michigan, established, designated, and adopted by the Mackinac Island State Park Commission and the Michigan Historical Commission.** 85 pp.; map, diagr., ills. *Michigan Hist. Commission Bull. No. 5.* Lansing, 1916.

PIERCE, E. D., G. H. SQUIER, AND L. P. KELLOGG. **Remains of a French post near Trempealeau.** Ills., bibliogr. *Proc. State Hist. Soc. of Wisconsin at its Sixty-Third Annual Meeting held October 21, 1915,* pp. 111-123. Madison, 1916. [Probable site of the first (1685-86) and last (1750-55) of the French posts on the Upper Mississippi.]

QUAIFE, M. M. **Index to volumes I-XX of the Wisconsin Historical Collections.** vi and 573 pp. *State Hist. Soc. of Wisconsin Colls.,* Vol. 21, 1915. Madison.

—— **St. Paul, City of: Annual report of the commissioner of public works for the year ending December 31, 1915.** 180 pp.; maps, diagrs. Dept of Public Works, St. Paul, 1915. [Contains several maps of the city, about 1:27,000, giving various data which may be of value in city geography.]

SHAW, E. W. **Newly discovered beds of extinct lakes in southern and western Illinois and adjacent states.** Maps, diagrs. *Illinois Geol. Survey Bull. No. 20,* pp. 139-157. Urbana, 1915. [A more complete presentation than the "Preliminary Statement Concerning a New System of Quaternary Lakes in the Mississippi Basin," *Journ. of Geol.,* Vol. 19, 1911, No. 6.]

SMITH, J. W., AND C. A. PATTON. **Ohio weather for 1915.** Maps, diagrs. *Ohio Agric. Exper. Station Bull. No. 296,* pp. 349-428. Wooster, 1916.

—— **Soil survey reports of Waushara, Waukesha, Iowa counties, Bayfield area, and north part of northwestern Wisconsin.** 394 pp.; maps, ills. **Soil survey reports of Fond du Lac, Juneau, Wewaunee, and La Crosse counties.** 339 pp.; maps, ills. *Wisconsin Geol. and Nat. Hist. Survey Bulls. Nos. 28 and 37, Soil Sur. Nos. 2-6 and 7-10.* Madison, 1913 and 1914.

STEWART, W. P. **Climatological data: Wisconsin section.** Maps. *Climatological Data,* Vol. 21, 1916, No. 10 (Oct.), pp. 75-78. Weather Bureau, Washington, D. C.

VAN DER ZEE, JACOB. **Episodes in the early history of the Des Moines Valley.** *Iowa Journ. of Hist. and Politics,* Vol. 14, 1916, No. 3, pp. 311-347.

WHYTE, W. F. **The settlement of the town of Lebanon, Dodge County.** *Proc. State Hist. Soc. of Wisconsin at its Sixty-Third Annual Meeting held October 21, 1915,* pp. 99-100. Madison, 1916. [The early settlers of Lebanon were lineal descendants of Salzburg emigrants who to escape religious persecution in Austria removed to Brandenburg in the early eighteenth century. For a like reason their descendants emigrated to America a century or more later.]

SOUTH AMERICA

ECUADOR, PERU, BOLIVIA

FERRIS, H. B. **The Indians of Cuzco and the Apurimac.** Map, ills. *Memoirs Amer. Anthropological Assoc.,* Vol. 3, 1916, No. 2, pp. 59-148.

HANDLEY, W. H. **Peru.** 24 pp. *Suppl. to Commerce Repts.*, Ann. Series, 1916, No. 46a, Bur. of Foreign and Domestic Commerce, Dept. of Commerce, Washington, D. C.

HANN, J. v. **Der tägliche Gang des Luftdruckes zu Quito und am Äquator überhaupt.** *Meteorol. Zeitschr.*, Vol. 33, 1916, No. 2, pp. 69-75.

JIMENEZ, C. P. **Estadística minera en 1914.** 150 pp. *Bol. Cuerpo de Ingenieros de Minas del Perú No. 82.* Minist. de Fomento, Lima, 1916.

MARIE, VICTOR. **La producción de algodón en el Perú.** *Bol. del Minist. de Fomento,* Vol. 14, 1916, No. 1, pp. 25-94. Lima. [Reproduced from Bulletin No. 4, 1904.]

REID, W. A. **Bolivia: The heart of a continent.** 53 pp.; map, ills. Bolivian Legation, Washington, D. C., 1916.

—— **Titicaca, La agricultura en la altiplanicie del.** *Bol. del Minist. de Fomento,* Vol. 14, 1916, No. 2, pp. 49-88. Lima. [Discussion of the possibilities of improvement in cultivation of the Titicaca region in view of certain agricultural experiments conducted during the years 1913-1914 and 1914-1915.]

—— ***Cerro Azul Bay, Peru. From a British survey in 1838.*** 1:25,500. *U. S. Hydrogr. Office Chart No. 1757.* Washington, D. C., July, 1916.

—— ***Ecuador, Ferrocarril transamazonico del.*** 1:10,000. Sindicato-Franco-Ecuatoriano de Paris, 1914.

—— ***Talara Bay, Peru. From a British survey in 1909.*** 1:75,000. *U. S. Hydrogr. Office Chart No. 2562.* Washington, D. C., July, 1916.

POLAR REGIONS

ARCTIC

NANSEN, FRIDTJOF. **Spitsbergen waters: Oceanographic observations during the cruise of the "Veslemöy" to Spitsbergen in 1912.** 132 pp.; maps, diagrs., ills., bibliogr., index. *Videnskapsselskapets Skrifter: I, Mat.-Naturv. Klasse,* 1915, No. 2. Christiania.

The Scandinavians have done some of the best work in oceanography—among them Dr. Nansen, zealous, keen observer, critical analyst of data, careful weigher of deductions. This contribution to science is of great value. He views the ocean, as the geologist views the land, as a mass of strata of different thicknesses, horizontal, inclined, with anticlines and synclines and large lentical-shaped sections interlocking like the regenerated drift in glacial gravel beds. This condition is largely due to differences in temperature, varying degrees of salinity, movement of ocean currents, whether tidal, wind-formed, or true currents.

The large number of sections given in the book showing vertical distribution of salinity, isopycnals, and thermal variations are illuminating, and reveal the vast amount of sounding and other investigations necessary for their plotting.

During the northward course of the expedition, several vertical series of observations were made. These demonstrated the tendency of bank-water towards vertical uniformity and showed that these homogeneous masses of water remain over the banks far into the summer. The larger and more shallow the bank, the longer the mass remains. In this conclusion we find food for thought relative to the effect of the bank-water upon the circulation of the Polar Current in the section north of Siberia and possibly an explanation of the excessive zig-zag drift of the *Jeannette* over that of the *Fram.*

The numerous observations made of the Spitzbergen-Atlantic Current for temperature at all depths down to 400 meters and an examination of the water salinity indicate a general law, "that when the temperatures of the deep layers of the sea west or northwest of Spitsbergen decrease towards 1° C., or lower, the salinity has a tendency to approach 34.92%." The same data compared with similar observations made in this area in 1905 show that the Spitzbergen-Atlantic Current had more of an Atlantic character in 1905 than in 1912.

Dr. Nansen found considerable variations in short periods of time of the water strata in the western and northern Spitzbergen fiords, due undoubtedly to horizontal circulation, which in turn was influenced by the tide. The chief cause of the difference in temperature lies in the water on the shelf outside of the fiords and is influenced by the Spitzbergen-Atlantic Current running west around South Cape, and then north as far as Cross Bay.

One point stands out in this work that should be emphasized, namely, that melting ice on the surface has little or no effect upon the underlying strata, as demonstrated by the vertical section of temperatures and salinity percentages made within 100 meters of Lilliehöök Glacier. Here is a subject for further investigation wherever glaciers of considerable size reach the sea. It is the custom of sea captains to "smell icebergs" with thermometers in foggy weather, but they deal only with a thin surface layer shifted with the wind.

Ice prevented penetration into the Deep Polar Basin north of Spitzbergen, but north of Hinlopen Strait Nansen discovered, at 620 meters, a channel evidently communicating with the Polar Basin. The water observed down to 500 meters indicated Atlantic origin and the water below this depth came from the Deep Polar Basin. Nansen draws the conclusion that "The salinity of the water of the Deep Polar Basin is identical with the salinity of the deep-water of the Norwegian Sea."

Under the heading "Extension and Shape of the North Polar Basin" Dr. Nansen gives an illuminating discussion of the work of the *Fram* expedition and criticizes the work of Rollin A. Harris relative to hypothetical land north of Alaska, west of Banks Land and north of Axel Heiberg Land, stating that such land cannot be so near known coasts as assumed by Mr. Harris.

The tides in the North Polar Basin are discussed at length but chiefly from data obtained outside of this particular expedition. Dr. Nansen reviews the data of the famous *Fram* drift of 1896, modifying some of his former conclusions and stating that ice pressures, in the broadest view, are the results of high tides and that much of the slack ice is due to slack water. Here he introduces a discussion of spring and neap tides and their coincidence with high and low ice pressures in the Deep Polar Basin. Indications are that tidal waves in the Deep Polar Basin are larger than have been assumed.

This is a most interesting portion of the treatise. The question can hardly be fully settled by deductions from the data at hand. The drifts of the *Jeannette* and the *Fram* gave a clue to the probable deep water north of the Siberian continental shelf. The drift of the Bryant-Melville casks (as pointed out by the writer of this review in 1907) indicates a shorter route from Alaskan waters to the Greenland-Spitzbergen Passage than that taken by the *Fram*. It indicates a more northern drift of true current character, consequently a broader and deeper basin underlying the casks. This conclusion is substantiated in Nansen's present discussion.

The study of northern oceanography has arrived at the point where a new drift, like the famous *Fram* drift, across the Polar Basin is desirable. This should be much to the northward of the *Fram* route. This was the route that Dr. Nansen intended to follow but he was caught in the ice on the continental Siberian shelf too far to the west.

A final chapter treats of the amount of oxygen in Spitzbergen waters, with some observations on the hydrogen ion concentration in northern sea water. The large number of tables and the 69 scale diagrams, all plotted from Dr. Nansen's soundings, make this work of permanent value to students of oceanography. W. S. C. RUSSELL.

BACKLUND, H. **Quelques données sur l'île de la Solitude (Ensomhed).** *Bull. de l'Acad. Imp. des Sci. [de Pétrograd]*, 1916, No. 11, pp. 913-919. [In Russian.]

CRAIG, R. M. **Outline of the geology of Prince Charles Foreland, Spitsbergen.** Ills. *Trans. Edinburgh Geol. Soc.*, Vol. 10, 1916, Part 3, pp. 276-287.

—— **Davis Strait and Baffin Bay, Meteorology of.** *Symons's Meteorol. Mag.*, No. 607, Vol. 51, 1916, pp. 100-101. [Abstract of a paper by Captain Campbell Hepworth read at a meeting of the Challenger Society, May 31, 1916.]

HARBOE, E. G. **Das Erdbebenobservatorium auf der Disko-Insel.** *Beiträge zur Geophysik*, Vol. 14, 1915, Second Part, No. 2, pp. 35-31. [Continuation of report in Vol. 11, 1911, Second Part, pp. 9-28.]

HOEL, ADOLF. **Résultats de l'expédition norvégienne au Spitsberg en 1914.** Map. *La Géogr.*, Vol. 30, 1914-15, No. 4, pp. 277-279. Paris.

LEVASSEUR, N. **Chez les Esquimaux.** Ills. *Bull. de la Société de Géogr. de Québec*, Vol. 10, 1916, No. 3, pp. 143-146. [A note on the labors of Fabien Vanasse, historiographer to the exploring expeditions conducted by Captain Bernier in 1908-9 and 1910-11 (see "Report on the Dominion Government Expedition to the Northern Waters and Arctic Archipelago of the D. G. S. 'Arctic' in 1910," Ottawa, n. d.). M. Vanasse made a census of the Eskimo groups inhabiting Baffin Land and the south shores of Hudson Strait.]

MATHEY-DUPRAZ, A. **Un voyage dans l'Arctique.** Map. *Bull. de la Soc. Neuchateloise de Géogr.*, Vol. 24, 1915, pp. 5-23.

PEACH, A. M. **The preglacial platform and raised beaches of Prince Charles Foreland.** Map, ills. *Trans. Edinburgh Geol. Soc.*, Vol. 10, 1916, Part 3, pp. 289-307.

RASMUSSEN, KNUD. **De første Thule-Ekspedition frem og tilbage over Inlandsisen.** Maps, ills. *Ymer*, Vol. 35, 1915, No. 2, pp. 133-163.

SPEERSCHNEIDER, C. I. H. **Nautisk-Meteorologisk Aarbog (Nautical-Meteorological Annual), 1914.** 156 pp.; maps. **1915:** 169 pp.; maps. Det Danske Meteorol. Inst., Copenhagen, 1916. [Of special interest on account of the colored maps showing the state of the ice and its geographical limits in the Arctic seas in the period from May to August inclusive, 1914 and 1915.]

STEPHAN, JULIUS. **Die Schmetterlingswelt der Polarregionen.** *Himmel und Erde*, Vol. 27, 1916, No. 10, pp. 388-393.

—— ***Spitsbergen, Farvand og ankerpladser paa vest- og nordkysten; optat av Ritmester Isachsens norske Spitsbergenekspedition med marinens D. S. "Fram" 1909-10.*** 1:2,500,000. With inset maps. 1, Forland Sundat—Kings Bay—Cross Bay, 1:200,000; 2, Blomstrand Hamn, 1:25,000; 3, Ferrier Hamn, 1:25,000; 4, Fram Hamn, 1:25,000; 5, Vulkan Hamn, 1:25,000; 6, Green Harbour, 1:100,000; 7, Hecla Hamn—Finnes Hamn i Green Harbour, 1:25,000; 8, Norske Hamna paa Bjørnøya, 1:25,000. Norges Geografiske Opmaaling, Christiania, 1912.

MATHEMATICAL GEOGRAPHY

GENERAL

DE SITTER, W. **On the mean radius of the earth, the intensity of gravity, and the moon's parallax.** *Proc. Section of Sciences, Kon. Akad. van Wetenschappen te Amsterdam*, Vol. 17, Part 2, pp. 1291-1295. June, 1915.

PARESCE, RENÉ. **Une nouvelle méthode de prévision du temps.** Diagrs. *La Nature*, No. 2243, 1916, Sept. 23, pp. 197-199.

SCHOY, C. **Mittagslinie und Qibla: Notiz zur Geschichte der mathematischen Geographie.** Diagrs. *Zeitschr. Gesell. für Erdkunde zu Berlin*, 1915, No. 9, pp. 558-576.

TAYLOR, G. I. **Skin friction of the wind on the earth's surface.** *Proc. of the Royal Soc.*, Series A, Vol. 92, 1916, No. 637, pp. 196-199. [The term "skin friction," taken from mechanics, is here used to express the tangential force exerted by the wind as it blows over a large tract of land.]

ZELENY, ANTHONY. **The dependence of progress in science on the development of instruments.** *Science*, No. 1102, Vol. 43, 1916, Feb. 11, pp. 185-193.

SURVEYING AND GEODESY

NELLES, D. H. **Photogrammetry for taking topography of watershed.** Diagr. *Engineering News*, Vol. 76, 1916, Nov. 9, pp. 878-880.

STUART, M. V. **The engineer's level.** Diagrs. *Cairo Scientific Journ.*, No. 99, Vol. 8, 1914, pp. 263-272. Cairo.

TIMERDING, H. E. **Die Ortsbestimmung auf See.** Maps, diagrs. *Die Naturwissenschaften*, Vol. 4, 1916, No. 3, pp. 29-35.

PHYSICAL GEOGRAPHY

METEOROLOGY AND CLIMATOLOGY

QUAYLE, E. T. **A graphical method of showing the daily weather, and especially cloud types.** 6 pp.; map, diagr. *Commonwealth Bur. of Meteorol. Bull. No. 12.* Melbourne. ["The essence of the method is simply to make a rough diagrammatic pen sketch of the cloud as it would appear in section . . . and show the apparent relative levels of the clouds by giving a definite value to the vertical scale of the diagram."]

SHAW, NAPIER. **Note on Mr. Bonacina's paper "On the re-adjustment of pressure differences: Two species of atmospheric circulation and their connection."** *Quart. Journ. Roy. Meteorol. Soc.*, No. 180, Vol. 42, 1916, pp. 229-231.

SWANN, W. F. G. **On the ionization of the upper atmosphere.** *Terrestr. Magnet. and Atmosph. Electr.*, Vol. 21, 1916, No. 1, pp. 1-8.

WENGER, R. **Über den Einfluss der Instrumentalfehler auf die synoptische Darstellung aerologischer Simultanaufstiege.** 16 pp.; diagrs. *Veröffentl. des Geophysikal. Inst. der Univ. Leipzig,* 2nd Series, No. 1. Leipzig, 1913.

HUMAN GEOGRAPHY

ANTHROPOGEOGRAPHY

PETRIE, W. M. FLINDERS. **The revolutions of civilisation.** xi and 136 pp.; diagrs., ills., index. (Series: Harper's Library of Living Thought.) Harper & Brothers, London and New York, 1911. 75 cents. 7 x 4½.

Dr. Petrie in this book propounds a theory, based on the evidences of archeology and of history, which appears to be fundamentally new. Published three years before the start of the great conflagration, the theory seems almost a Cassandra-like prediction of the present upheaval. The book is so "full of meat" that in a short review it is impossible to touch on many of its various points or to do more than briefly to indicate its general trend.

Petrie's main idea is that what we call civilization proceeds in a regular cycle, from a low stage of culture to a high stage of culture, then back again to a low stage of culture. The high stages of culture of various races throughout the world do not coincide. For instance, when feudal central Europe was in a state akin to barbarism, Arab civilization was flourishing in Spain and North Africa.

Each cycle of civilization of a race follows a regular course. On emerging from barbarism, the first product to attain fruition is sculpture, followed in turn by painting; then by literature, then by mechanics and science, then by wealth; after which civilization goes to pieces and returns to barbarism. Government also keeps abreast with civilization in a regular course. It is first an autocracy, then an oligarchy, then a democracy. "When democracy has attained full power, the majority without capital necessarily eat up the capital of the minority, and the civilization steadily decays, until the inferior population is swept away to make room for a fitter people."

Petrie has traced the civilization of Egypt through eight cycles, each of which becomes less distinct as it is further back from us. The seventh Egyptian period corresponds with the last period of European civilization, which brought forth the great sculptures of Greece about 450 B. C., and which ended with the fall of the Roman Empire about 450 A. D. Our own cycle begins with the darkness of the Middle Ages. Gothic sculpture reaches a high stage of development about 1200 A. D., painting about 1400, literature about 1600, mechanics and science about 1900. Judging from precedent—were it not for the Great War—wealth should have a chance of increasing for a hundred or two hundred years more.

Petrie's book arouses a pessimistic and hopeless feeling of the strongest kind about coming generations. For whatever may be the outcome of the present cataclysm it is certainly rushing to destruction the wealth of Europe and of North America. It may be that we are already over the edge, tumbling back to anarchy and barbarism!

EDWIN SWIFT BALCH.

ECONOMIC GEOGRAPHY

General

MITCHELL, W. C. **Business cycles.** xviii and 610 pp.; diagrs., index. *Memoirs Univ. of California, Vol. 3.* Univ. of California Press, Berkeley, 1913. 13 x 10.

Geographers must view with pleasure the extent to which economists are recognizing the importance of the science of geography. A recent review (*Geogr. Rev.*, Vol. 1, p. 192) of Moore's book on "Economic Cycles" showed the close relationship between the average production of crops per acre and the prices of commodities. It also showed that the relationship between crop production and prices is suddenly disturbed at times of panic. The present volume was written before that of Moore, but has not hitherto been noticed in this *Review.* It is interesting as preparing the way for Moore's book and at the same time as giving a comprehensive review of the mechanism of business cycles and of the sudden break which comes at times of panic. The author does not go so far as Moore in attributing the ebb and flow of business to crops, but this seems to be largely because he has not gone into the question of crops so carefully. His main point is that a variation in the production of any commodity or crop disturbs other lines of business and that thus prices may be caused either to rise or fall according to the nature of the disturbances. In his summary he puts the matter thus:

"Many of these divergences among business cycles are due to events which arise

from other than business sources. For the mechanism of the money economy is so delicate that someone's prospects of profits are affected by every day's news. Most important of all these extraneous factors in the long run are the changes of the weather which make crops good or bad, and so affect the prices of farm products, the purchasing power of agricultural communities, the earnings of 'granger' railways, etc.'' He adds that: ''The making of war or of peace, disturbances of domestic order, earthquakes, conflagrations, epidemics, changes in monetary standards, tariff revisions, governmental policies regarding corporations, alterations in the gold output, improvements in industrial technique, the shifting of trade routes—these and a thousand other things can scarcely fail of helping or hampering some business venture. If the circle which they reach be large and their effects pronounced, they doubtless give a peculiar twist to the business cycle within which they fall.''

It is noticeable that as the result of a long, exact, and most painstaking study, Mr. Mitchell comes to the conclusion that although such things as war, domestic disorder, tariffs, changes in banking systems, and other things may temporarily cause grave fluctuations in commerce, the crops stand by themselves as the one great cause whose fluctuations man cannot control and which are bound to occur in all parts of the world. While Mr. Mitchell's book consists largely of an economic study of variations in prices, production, imports, bank clearings, employment, manufactures, currency, and other factors, it is well worth study by the geographer who wishes to see how his science is related to daily life. ELLSWORTH HUNTINGTON.

CLARK, J. B. **[The theoretical side of] The economic costs of war.** *Amer. Econ. Rev.: Suppl.*, Vol. 6, 1916, No. 1, pp. 85-93. [Paper read at the 28th Annual Meeting of the Amer. Econ. Assoc., Washington, D. C., Dec., 1915.]

LANE, F. K. **The contest with physical nature.** *Science*, No. 1101, Vol. 43, 1916, Feb. 4, pp. 158-159. [Address by the Secretary of the Interior before the Mining and Geological Section of the Pan-American Scientific Congress, Washington, D. C., Dec., 1915-Jan., 1916.]

MAVOR, JAMES. **Applied economics: A practical exposition of the science of business with illustrations from actual experience.** xxi and 487 pp.; index. Alexander Hamilton Institute, New York, [1914]. 8½ x 5. [Chapters on the economics of agriculture, production, and transportation.]

ROSSITER, W. S. **The statistical side of the economic costs of war.** *Amer. Econ. Rev.: Suppl.*, Vol. 6, 1916, No. 1, pp. 94-117. [Paper read at the 28th Annual Meeting of the Amer. Econ. Assoc., Washington, D. C., Dec., 1915.]

WHITBECK, R. H. **Economic geography: Its growth and possibilities.** *Journ. of Geogr.*, Vol. 14, 1915-16, No. 8, pp. 284-290.

Production

CLUTE, R. L. **Practical lessons in tropical agriculture: Book II.** x and 258 pp.; diagrs., ills., glossary, index. **Book III.** vii and 251 pp.; diagrs., ills., glossary, index. World Book Co., Yonkers, N. Y., 1916. 7½ x 5½.

These two additional books on tropical agriculture maintain the high standard set in Book I (reviewed in the April, 1916, *Review*, Vol. 1, pp. 327-328). The presentation is attractive, direct, forceful, simple, and instructive. The style is somewhat primer-like, for the volumes are intended as text-books to be used in the schools of the Philippine Islands, where the students, even though advanced, are presumably still developing their knowledge of the English language.

A noteworthy feature is the scheme employed to introduce the student to modern methods of harvesting and other types of work in the light of the antiquated native procedure, without reacting unfavorably upon the native. For example, one reads, ''Most rice in the Philippines is harvested by hand.'' This, after a few qualifying sentences is followed by, ''In some countries rice is harvested by a machine that cuts the grain and ties it into bundles.'' This is further amplified.

Book II describes the mechanics of a farm, presents a detailed account of the leading crops, and briefer statements relative to a group of miscellaneous but nevertheless important products. In Book III, among other things, crop rotation, fruits, forests, domestic animals, and business methods constitute leading topics.

These books are not only replete with information for the agricultural specialist and the layman but also for the geographer who would increase his knowledge of the Philippines in a practical way. EUGENE VAN CLEEF.